

IN THE CLAIMS

Please cancel claims 1-29 without prejudice or disclaimer, and substitute new claims 30-58 therefor as follows:

Claims 1-29 (Cancelled).

30. (New) A method of manufacturing tyres for vehicle wheels, comprising the steps of:

disposing a carcass structure comprising at least one carcass ply on a primary drum;

assembling a belt structure comprising at least one belt layer on an auxiliary drum;

picking up the belt structure from the auxiliary drum;

transferring the belt structure to a coaxially centered position relative to the carcass structure; and

shaping the carcass structure into a toroidal configuration to engage the belt structure with the carcass structure,

wherein during said step of assembling said belt structure, at least one underbelt insert is associated with said at least one belt layer at a radially internal position.

31. (New) The method as claimed in claim 30, wherein association of said at least one underbelt insert with the belt structure comprises the steps of:

applying said at least one underbelt insert onto an expandable support;

and

radially expanding the expandable support to mutually join the belt structure to said at least one underbelt insert.

32. (New) The method as claimed in claim 31, wherein application of said at least one underbelt insert is carried out through spiralling of at least one elongated element of elastomer material on the expandable support.

33. (New) The method as claimed in claim 31, wherein concurrently with the radial-expansion step, an angular rotation is imposed to said at least one underbelt insert.

34. (New) The method as claimed in claim 33, wherein each underbelt insert is oriented such that the axially internal portion of said insert is substantially parallel to an inner surface of the belt structure.

35. (New) The method as claimed in claim 31, wherein the step of assembling the belt structure on the auxiliary drum is carried out after said radial-expansion step and simultaneously with the mutual-join step, through winding of said at least one belt layer around the expandable support carrying said at least one underbelt insert.

36. (New) The method as claimed in claim 31, wherein, before the radial-expansion step, the belt structure picked up from the auxiliary drum is placed at a coaxially centred position relative to the expandable support.

37. (New) The method as claimed in claim 36, wherein said join step takes place through approaching between said at least one underbelt insert and the belt structure by effect of the radial-expansion step of the expandable support.

38. (New) The method as claimed in claim 31, wherein, before said transferring step and after said associating step, a step of pressing the belt structure against said at least one underbelt insert carried by the expandable support is carried out.

39. (New) The method as claimed in claim 30, further comprising the step of applying a tread band around the belt structure disposed on the auxiliary drum.

40. (New) The method as claimed in claim 39, wherein said tread band is applied through spiralling of at least one elongated element of elastomer material.

41. (New) The method as claimed in claim 30, further comprising the step of applying a tread band at a radially external position to the belt structure that is assembled to a tyre under working shaped into a toroidal conformation, through spiralling of at least one elongated element of elastomer material.

42. (New) The method as claimed in claim 39, wherein, before transfer of the belt structure, the step of bending the side edges of the tread band against axially external portions of said at least one underbelt insert coupled with the belt structure is carried out.

43. (New) The method as claimed in claim 30, wherein the step of laying the carcass ply is carried out through an operation involving winding of the ply around the primary drum.

44. (New) An apparatus for manufacturing tyres for vehicle wheels comprising:

a primary drum set to support a carcass structure comprising at least one carcass ply;

an auxiliary drum having an abutment surface set to support a belt structure;

a transfer member movable between the primary drum and auxiliary drum; gripping devices associated with the transfer member to pick up the belt structure from the auxiliary drum; and

devices for application of at least one underbelt insert to said belt structure when the latter is at a position axially spaced apart from the carcass structure.

45. (New) The apparatus as claimed in claim 44, wherein said application devices comprise:

an expandable support;
devices for winding of the underbelt inserts on the expandable support;
and

actuator members to radially expand the expandable support between a first operating condition at which said support has a reduced diameter and a second operating condition at which said support has an increased diameter.

46. (New) The apparatus as claimed in claim 45, wherein said winding devices comprise at least one unit to feed an elongated element of elastomer material for application of said underbelt inserts through spiralling of said elongated element.

47. (New) The apparatus as claimed in claim 45, wherein said expandable support comprises an inflatable bladder, said actuator members being set to feed a fluid under pressure into the inflatable bladder.

48. (New) The apparatus as claimed in claim 47, wherein said inflatable bladder has opposite end flaps in engagement with respective axially-opposite attachment flanges.

49. (New) The apparatus as claimed in claim 44, wherein the expandable support comprises a drum having circumferentially distributed apertures, through which radially movable sectors operate upon command of the actuator members.

50. (New) The apparatus as claimed in claim 44, wherein said expandable support is laterally spaced apart from the auxiliary drum.

51. (New) The apparatus as claimed in claim 44, wherein said expandable support defines the abutment surface of the auxiliary drum.

52. (New) The apparatus as claimed in claim 44, further comprising pressing members operating on the expandable support to cause pressing of the belt structure against said at least one underbelt insert.

53. (New) The apparatus as claimed in claim 44, further comprising devices for application of a tread band to the belt structure, at a radially external position.

54. (New) The apparatus as claimed in claim 53, wherein said devices for application of the tread band operate on the auxiliary drum.

55. (New) The apparatus as claimed in claim 54, wherein said devices comprise a feeding unit to supply an elongated element of elastomer material for application of said tread band through spiralling of said elongated element.

56. (New) The apparatus as claimed in claim 53, wherein said devices for application of the tread band operate on the primary drum.

57. (New) The apparatus as claimed in claim 56, wherein said devices comprise a feeding unit to supply an elongated element of elastomer material for application of said tread band through spiralling of said elongated element.

58. (New) The apparatus as claimed in claim 53, further comprising bending devices operating on the expandable support to bend end flaps of the tread band against axially external portions of said at least one underbelt insert associated with the belt structure.